

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

FOR FURTHER ACTION See paragraph 2 below

Applicant's or agent's file reference
see form PCT/ISA/220

International application No. PCT/US2004/043051	International filing date (day/month/year) 20.12.2004	Priority date (day/month/year) 29.12.2003
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International Patent Classification (IPC) or both national classification and IPC
H04L29/06, H04L29/12

Applicant
INTEL CORPORATION

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Due Date
10/29/05

DV
22 mo.

Name and mailing address of the ISA:	Authorized Officer
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/043051

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - in written format
 - in computer readable form
 - c. time of filing/furnishing:
 - contained in the international application as filed.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

- The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
- This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/043051

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-32
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-32
Industrial applicability (IA)	Yes: Claims	1-32
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: RFC 1546 (cited in the description)

D2: RFC 3513 (cited in the description)

D3: Hagino et al, "An analysis of IPv6 anycast", Internet Draft, 27.2.2001, pg. 1-8,

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1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1 (network address), and discloses (the references in parentheses applying to this document) a network address (D1, pg. 3, section "anycast addresses"), comprising:

- prefix bits encoded to identify the network address as a selected one of a unicast network address, an anycast network address (called either "separate class" or "taking part of the class C addresses", hence the class indicators being the prefix bits, see D1, pg. 3-4, section "anycast addresses", paragraphs 3-5) and
- anycast group identifier bits to identify an anycast group having one or more anycast members, wherein each of the one or more anycast members is associated with the same anycast network address (the anycast address, D1, pg. 4, section "anycast addresses", paragraphs 3-5).

The subject-matter of claim 1 differs in that

- a) the prefix bits are encoded to identify the network address as "both" if an address exists as unicast and anycast network address;
- b) anycast scope identifier bits to identify an anycast scope, wherein the anycast scope corresponds to a network scope within which the anycast network address is recognized

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.
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1.1 The problem to be solved by the present invention may therefore be regarded as

- a) how to reduce the number of entries in the routing table if one address exists as unicast and anycast network address
- b) how to limit the propagation of anycast routing entries to provide scalability

1.2 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

1.2.a) concerning 1.1.a): Aggregation of addresses is known by the person skilled in the art. The feature of using such a prefix is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

1.2.b) concerning 1.1.b): Limiting the propagation with a scope field is known eg. from multicast (see eg D2 cited by the applicant, pg. 13, section 2.7). Applying this known technique to anycast is not inventive.

The claimed invention in claim 1 consists merely in the juxtaposition (1.1.a) - 1.1.b)) of known features in their normal way and not producing any non-obvious working interrelationship. There is no functional relationship between the features (see PCT search and examination guidelines 13.05).

2. The argumentations of section 1 above applies mutatis mutandis also for claims 6, 11, 12, 22, 23 and the corresponding parts of claim 17 and 28.

The remaining features of claims 17 and 28 refer to table look up (known by the person skilled in the art) and obvious conditions when to change to "both". They are not inventive.

2. Dependent claims 2-5, 7-10, 13-16, 18-21, 24-27, 29-32 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, the reasons being that the indicated features are merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill.